

In the Drawings:

Please enter the enclosed two New Sheets bearing new Figs. 4 and 5 to be added to the application.

[RESPONSE CONTINUES ON NEXT PAGE]

REMARKS:

- 1) In response to the objection to the drawings (page 2 of the Office Action) Applicant submits with a separate cover letter to Drawing Review a new Fig. 4 to show the control means, the high pressure compressor and the low pressure compressor. Proposed new Fig. 4 is supported by the original disclosure in the specification page 8, line 19 to page 9, line 24 and by original claims 11 to 12. New Fig. 4 does not contain any new matter.
- 2) Applicant also submits a new Fig. 5 to illustrate the features set forth in new independent claim 25. New Fig. 5 is based on the original disclosure of claims 7, 8, 9 and 10. New Fig. 5 is further supported by the disclosure in the specification page 12, lines 5 to 19. New Fig. 5 is also based, in part, on original Fig. 3. New Fig. 5 shows the generator rotor and the compressor rotor as a unitary structure. The generator stator windings 25 are shown as being hollow for cooling by fuel flowing through these hollow windings 25. This feature of the invention is originally supported by claims 9 and 10. New Fig. 5 does not contain any new matter.
- 3) The grounds for the objections to the original literally translated specification have been avoided by the above proposed revisions in the specification. These revisions follow, to the applicable extent, the provisions set forth on pages 3 to 5 of the Office Action. The proposed revisions are supported by the context and by the originally filed claims and drawings.

Further, in order to avoid confusion between the rotor and stator of the compressor on the one hand and the rotor and stator of the electrical generator on the other hand, the proposed revisions refer to "compressor rotor", "compressor stator", "generator rotor" and "generator stator". New matter is not involved in the revisions. The substitute specification includes no new matter.

- 4) The claims have been revised as new claims 25 to 39. Claims 16 to 24 have been cancelled. The new claims 25 to 39 are based on the previous claims and specification as follows.

new claims	25	26	27	28	29
prev. or original claims	16 7,8	Spec. p 3 line 16 to 20	cl 7/8 p 3 line 20	8	8

new claims	30	31	32	33	34	35	36	37	38	39
prev. or original claims	9	10	11	12	13	14	15	Fig. 1	9	10

The new claims do not contain any new matter.

- 5) Entry into the official record of the substitute specification, the new Figs. 4 and 5, and of new claims 25 to 39 are respectfully requested.
- 6) The rejection of claims 1, 2 and 16 to 24 under 35 USC 112 (2nd paragraph) is respectfully traversed. These claims 1, 2 and 16 to 24 have been cancelled. The respective new claims avoid alternative reference numbers and different reference numbers referring to different embodiments. The term "the or each" has been avoided. Ambiguous language has been avoided in new claims

25 to 39. Withdrawal of all rejections under 35 USC 112 (2nd paragraph) is respectfully requested.

- 7) The rejection of claims 16 to 24 under 35 USC 103(a) in view of US Patent 6,914,344 (Franchet et al.) taken in combination with the ordinary skill in this art at the time the invention was made is respectfully traversed for the following reasons. It is the object of the invention to use components available in a gas turbine compressor to work for two purposes. Thus, as defined in new claim 25 a compressor rotor blade (15) and a generator rotor blade from a unitary structure. Stated differently, a compressor rotor blade is also a generator rotor blade because according to the invention pole pieces (26) have been incorporated or integrated in the compressor rotor blade or blades (15). As a result, the compressor rotor blade or blades (15) can perform both the generator rotor function because of the incorporated pole pieces (26) and the compressor rotor function because the compressor rotor blades (15) are formed as such and rotate. This concept is originally disclosed in the specification page 3 lines 16 to 22 and page 12, lines 5 to 19. On page 3 it is stated that the pole pieces are integrated into the rotor blades (15) or the pole pieces are allocated to the ends of the rotor blades. Further, Fig. 2 shows that the rotor blades are the pole pieces 26. On page 12, lines 7 to 12 the pole pieces are allocated to the "radially outwardly positioned ends of the rotating rotor blades". Further, the generator stator is allocated to the compressor stator specifically to the

compressor stator housing or stationary compressor guide vanes (page 12 line 11).

- 8) The foregoing concept has now been defined more clearly in new independent claim 25 which is based on previous claim 16 and on originally filed claim 7. The above cited portions on pages 3 and 12 of the specification also support new claims 25, 26 and 27. The concept of a compressor rotor blade also functioning as a generator rotor blade is neither shown, nor suggested by the disclosure of Franchet et al. for the following reasons.
- 9) In Franchet et al. the compressor rotor 3 comprises blades 9. Each compressor rotor blade 9 is mounted to a rotor shaft by a blade portion 10, please see Fig. 1 of Franchet et al. This mounting blade portion 10 has a bore 23 extending parallel to the engine axis X. The magnets 25 operating as pole pieces are "regularly distributed" on the inside of a cylindrical sleeve 26 (col. 4, line 25). The sleeve 26 in turn is mounted in the bore 23 of the mounting blade portion 10 (col. 4, lines 36 to 56). Please see also Fig. 4 of Franchet et al. The stator 24 (secondary magnetic circuit) is mounted on a cylindrical shroud 35 secured to the support structure 13 of the bearing 14. Such a structure increases the radial or rather diameter dimensions of the compressor without any benefits. To the contrary, such arrangement results unavoidably in an additional mechanical load on the rotor disk bore 23 or rather on the mounting blade portion 10 surrounding the bore 23, because of the increased compressor diameter. This problem is solved conventionally by reducing the

rated rotor r.p.m. or the entire compressor must be constructed bulkier to take up the added mechanical load. More bulk means more weight, a fact which is the number one problem in aircraft construction. The invention avoids this problem by the features set forth above in new independent claims 25 and 37 and in the dependent claims 26 to 36 and 38, 39.

- 10) Franchet et al. do not suggest constructing the compressor rotor blades to also function as generator rotor blades because Franchet et al. incorporate the pole pieces 25 in the bore 23 of the mounting blade portion 10.
- 11) With regard to dependent claims 26 to 36, 38 and 39 it is respectfully submitted that Franchet et al. neither show nor suggest any of the features of these dependent claims. For example mounting the stator windings 31 (secondary magnetic circuit) on a shroud 35 secured to stationary part 13 of the compressor rotor bearing 14 does not suggest mounting the generator stator windings to the compressor stator stationary guide vanes (claim 29) or to the compressor stator housing as set forth in present (claim 28). Franchet et al. also do not teach much less suggest making the generator stator windings hollow for cooling by flowing fuel through these hollow generator stator windings 25.
- 12) With regard to claim 37, the rotation of the generator rotor 20 radially in a gap between two generator stator sections 23, 24 as shown in present Fig. 1 is neither disclosed in any of the references taken singly nor suggested by the references taken in

combination. Particularly, Franchet et al. neither show nor suggest such a concept.

- 13) Favorable reconsideration and allowance of the application, including all present claims 25 to 39, are respectfully requested.

Respectfully submitted,

WGF:he/4948  
Enclosures:  
Transmittal Cover Sheet  
Term Extension Request  
Form PTO-2038  
Drawing Transmittal w.  
2 New Sheets of Drawings  
Substitute Specification  
Marked-Up Version  
Substitute Specification  
Clean Version  
Postcard

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W. G. Fasse June 26, 08  
Name: W. G. Fasse - Date: June 26, 2008